

VIRGINIA WILDLIFE

JULY 2011

FOUR DOLLARS



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JULY



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ABOUT THE COVER: Little Wicomico Inlet, Northern Neck; Oil on canvas © Dan Bartges

BOB DUNCAN
Executive Director



I guess I am an incurable hunter-gatherer! I do not remember *not* having a serious vegetable garden in my adult life and, as many of you know, I have been a lifelong hunter and angler. We hear much today about the locavore movement and one of the many side benefits to gardening, of course, is the knowledge that you are reducing your carbon footprint by eating produce that requires no transportation! Hunters and anglers and gardeners and beekeepers have long recognized the value of eating locally grown foods—often, right from their own backyards and woods.

Paying homage to this tradition, the Virginia Museum of Natural History recently opened a new exhibit called “Living Off the Land,” which will run until January 14. Museum director Joe Keiper and his talented staff worked closely with our Department, the state chapter of the National Wild Turkey Federation, Orvis, and Rotary International to sponsor this impressive collection which focuses on the many ways that humans depend on nature for a wealth of resources that bolster our economy, provide recreational outlets, and fulfill our need for beauty. I certainly recommend this exhibit and the many other outreach programs of the museum to you and your family.

At another state institution, we are reminded that Blandy Experimental Farm and State Arboretum conducts cutting-edge botanical research at their facility in the Shenandoah Valley. Writer Marie Majarov shares in her feature on page 18 the history behind this property gifted to UVA that has evolved into both an outdoor education classroom for children, as well as a laboratory for ecological investigation.

So grab the kids or some friends and venture out to these remarkable places across Virginia that help all of us reconnect with the natural gifts that sustain us. You might make such an outing a reward for the tilling and the weeding and the watering of the garden—but I suspect the promise of fresh fruits and vegetables glistening on the kitchen counter may be reward enough.

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A Day On the Bay





A well thrown cast net from the dock will often land some nice-sized flounder baits.

Some time on the open water and a little fishing action can do the soul plenty of good.

story by Tee Clarkson
photos by Dwight Dyke

Mayhem juxtaposed against tranquility; that is heading east on 64 from Richmond toward the Chesapeake Bay. Williamsburg. Newport News. Planes. Traffic. Tourists. Amusement parks. Yet, just a couple of minutes down the road toward Poquoson, the salt from the bay rides the breeze and the smell of the marsh at low tide speaks of times when these things were at the forefront of most men's minds. When knowing the tides, the water, the fish, meant the difference between eating and going hungry.

It's rare these days that I find myself doing something completely new when it comes to fishing, very rare really, and even more so in Virginia. Somehow though, I had managed to miss out on the flounder fishing over the years. I tried a few times. I have a vague memory of a "doormat" my father pulled in when I was a boy. There was a failed trip to "The Cell" once a few years back due to a storm, and that is really about it other than a few throwback incidentals here and there when fishing for other species. Today I had plans to change my luck. It was a typical hot



The author (R) and Capt. Neil Renouf show a couple of flounder, one caught using live spot and the other, a jig tipped with an artificial Gulp minnow.

Wednesday afternoon in August. I was going fishing with Captain Neil Renouf of Old Dominion Outdoors for flounder, spadefish, and cobia.

The good news was Neil and his buddy, Captain Tony Horsely, who was coming along with us, had been catching regular limits of nice-sized flounder, plenty of spadefish, and quite a few cobia in recent weeks. The bad news was the wind. Overnight, the wind had kicked up to 15 miles an hour out of the Northeast, and we were unsure if we would be able to get out. Neil was booked the rest of the week and my schedule didn't look good for postponing. We were intent on making it happen.

I had invited an old friend from college, Will Cranz, to join us. Will is another outdoor veteran, having guided trout and salmon in the Alaskan backcountry for the better part

of the last decade. Now he manages a farm just outside of Louisburg, North Carolina, spends more time in the deer stand than your average five hunters, and runs a kids fishing camp called North Carolina Fishing Adventures. Will, like me, had never caught any significant flounder in his home state of North Carolina or in Virginia.

We boarded Neil's boat a little over an hour after leaving Richmond. It was a short run to Neil's fish trap, where we loaded the live well with small spot before making a beeline for the Back River artificial reef. Normally I wouldn't disclose a specific spot in print, but it is no secret that artificial reefs like this one hold some of the largest flounder around. The trick is knowing exactly where to drop your baits. We had two things going for us. One, the wind had finally died down, and two, Neil knows exactly where to drop the baits.



Capt. Tony Horsely bounces a jig off some rocks, looking for a flounder bite.



Capt. Tony Horsely is hooked up to a giant ray he caught while jigging for flounder near the Chesapeake Bay Bridge-Tunnel.

Neil came to guiding fishermen for a living in a round-about way like almost all fishing guides I have ever met. Born in the Richmond area, Neil spent a significant portion of his childhood overseas, going to school in England, before returning to the states and gaining much of his fishing knowledge from his grandfather. He became fascinated with Lake Moomaw through articles he read in magazines in the '90s, but found much of the information and techniques he read about to be ineffective. Frustrated by a lack of success on the lake, he invented his own tactics and soon was having great luck. A building contractor by trade at the time, he made several videos on fishing Moomaw and the James River just for the fun of it. Soon he was getting calls asking if he could make guided trips. The calls kept coming, and he decided to give it a shot. In 1998 he started Old Dominion Outdoors, guiding Lake Moomaw, the James River for catfish, and the Chesapeake Bay. Now he focuses his efforts on fishing the lower James for catfish

and the Chesapeake Bay for flounder, spade-fish, and cobia.

Will and I dangled our live spot over the side of the boat, waiting for Neil's direction. "You'll feel the rocks on the bottom," he said. "The fish will be right on the edge of those rock piles. It feels sort of like hooking a wet paper bag when they hit." One last look at the electronics and Neil shouted, "Okay, drop 'em."

We made several passes over that first spot, drifting with the current and the wind, slowly raising our rods up and down so as not to get hung up on the rocks. Nothing. We pulled up and moved a hundred yards or so to another pile of rocks and started another short drift. I could feel my weight bouncing in the rocks, and then the tip pulled down. It wasn't a sharp whack that would signify a bite with many species, but felt more like, well, a wet paper bag. I pulled back and my rod doubled over. I had one. In a minute or two Neil hoisted my 6-pound flounder over the side and into the net. People fish for different



Will Cranz (L) and the author with a couple of spade-fish caught near the bridge tunnel.

species for all sorts of reasons: tarpon because of their jumps and powerful runs, permit because of their finicky nature and consequent challenge, and trout because they live in beautiful places. People fish for flounder because they taste pretty darn good. This guy looked especially tasty coming into the boat.

While I was fighting the fish, the boat had drifted off the rock pile. We turned around and made another pass, and almost before I could get a new spot on my hook and drop my line, Neil was into a nice flounder on a jig tipped with a Gulp minnow. Another pass yielded a nice keeper for Will. Three passes, three nice flounder. There is an old saying, "never leave fish to find fish." But we wanted to catch some other species and the wind had shortened our day. We reeled in and headed toward the Bay Bridge-Tunnel in search of cobia and spadefish.

While the cobia weren't cooperating this day, the spadefish were plentiful and more than happy to take the clam on our hooks. Will and I caught a handful each in an hour as they swarmed around the pilings at the bridge. With the tide starting to slacken and the bite turning off, it was time to pull them in and head for home. Neil powered the throttle down, and his boat jumped up on plane.

I enjoy a bit of a boat ride after a day of fishing or hunting waterfowl where there is nothing to do but reflect and appreciate the time. The plans and anticipation from before the trip are gone. Things have worked out or they haven't. For the most part the thinking is done, and it is easier to melt into the moment. The monkey was off my back. I had caught a nice flounder, as had Will. I had finally gotten the opportunity to get out on the water with Neil and Tony, something we had been trying to do for a while. We had lucked out with the wind and the weather. Ironically, in just an hour we would have cleaned the fish and the four of us would be eating in a Mexican restaurant in Newport News, back amidst the mayhem. 🐟

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For information about fishing with Neil or Tony, go to <http://www.olddominionoutdoors.com> or call 804-539-8023.



Will Cranz shows off a nice spadefish caught next to the pilings on the bridge, and netted below.





The Food

*Graduate students
are the unsung heroes
of wildlife research.*

story and photos
by David Hart

Dana Morin bends down on the edge of a rocky trail, pulls on a pair of leather gloves, and picks up a twisted black cylinder about four inches long. It's animal scat, either a fox, bobcat, or possibly a coyote, says Morin. To be sure, she crumbles the dropping in her glove and brings it closer to her face, examining the shape, the composition, even the odor.

"Bobcat," she declares, explaining that bobcat scat has a unique smell and that the location—off to the side of the trail and partially covered with leaves—is also a good indication of what left the calling card.

Gross? Maybe. But for a graduate student conducting research, it's just part of the job. Morin, a Virginia Tech Ph.D. candidate, and fellow Tech grad student David Montage are in the early stages of a three-year study that will examine coyotes and their diet on the George Washington and Jefferson National Forest. She and Montage want to know just how many coyotes are in the study areas of Rockingham and Bath counties and if they are in any way to blame for the decline in deer numbers in the region. For much of the study period, she will be setting and checking traps, scouring the woods for more coyote scat, and following the movements of radio-collared coyotes across the national forest. They and a handful of undergraduate assistants will be living, eating, breathing, and thinking coyotes for the next three years.

"I love it. I can't imagine doing anything else," she says.

t Soldiers

Cheap But Vital Labor

It's that passion that makes graduate students such an invaluable part of fish and wildlife research, says Cale Godfrey, who serves as a regional assistant director for the bureau of wildlife resources with the Department (DGIF). In fact, without their dedication, our knowledge of fish and wildlife would be just a fraction of what it currently is and our game regulations would likely be much different. Grad students, for example, played a major role in the Southern Appalachian Cooperative Grouse Research Project. It helped shape harvest and management recommendations for ruffed grouse in Virginia. A recent study conducted by a Tech student helped DGIF fisheries biologists learn more about the population dynamics of non-native snakeheads in the tidal Potomac River, and grad students examined striped bass mortality in Smith Mountain Lake. As a result of their findings, Department biologists altered stocking efforts to increase fingerling survival, creating a better fishery. Godfrey participated in the Cooperative Allegheny Bear Study in the early 1990s. His and other research helped shape the state's current bear management plan.

"Graduate students are willing to work long hours under some pretty rough conditions and for not much pay," says Godfrey. "They are extremely dedicated and they have an active and important role in shaping the way we manage our game and nongame fish and wildlife."

That low pay is one reason they are such an invaluable tool in our ongoing quest for knowledge of the natural world. Godfrey says it would be virtually impossible for Department staff biologists to conduct similar extensive research. Although some Department biologists do participate in studies, students tend to do much of the field work.

Left, examining animal scat is just part of the job for Ph.D. candidate Dana Morin. Right, grad student Jeff Dragon gladly walks through streams and muck in order to learn more about wood turtles.





Want To Be A Biologist?

If the life of a graduate student sounds like the perfect way to spend a few years, consider the advice of Virginia Tech fisheries professor Dr. Brian Murphy. He's been teaching at the university for 15 years and has seen thousands of students come through the wildlife and fisheries program. Some make it; most don't.

"The ones who succeed know what they want to do when they get here and they are determined to reach their goal," says Murphy.

It takes more than determination. Murphy says the best college students excel in math and biology (both vital subjects in the wildlife profession) in high school and rank high in their class.

"You'll have to do well in statistics and calculus in college, as well. There's no way around those courses," he adds.

Once you earn an undergraduate degree, you'll need at least a Master's to get a job as a biologist. The market is so competitive these days, an undergraduate degree likely won't take you very far in the wildlife business. However, Murphy says the job market is pretty good, thanks in part to the large number of biologists who are planning to retire over the next decade.



Dana Morin (R) is working a three-year coyote study in western Virginia. She will be assisted by Virginia Tech undergrads, including Josh Kinkead and Sarah Webber.

"We just couldn't afford to put a couple of staff biologists on a research project for two or three years at a time and still manage to do the jobs they are hired to do. Graduate students are cheap, but they are enthusiastic and they do good work," he says.

When he was a grad student at Tech, Godfrey got somewhere in the neighborhood of \$1,100 a month during the three-year project. These days, the average amount is a little more, but it's still barely enough to cover basic living expenses. The money comes from various state, federal, or non-profit entities that want answers about a particular species.

In Jeff Dragon's case, the money is coming from a State Wildlife Grant from the U.S. Fish and Wildlife Service to the Department. His research project will shed more light on threatened wood turtles, a reclusive

reptile that is facing some tough times. Dragon is examining the population status, breeding ecology, and habitat use in order to better understand ways to help the turtles survive. Like most grad students, he's doing his job on a shoestring budget.

"I eat lots of tuna fish and PB&J sandwiches, but I love it," admits Dragon.

He met Longwood University biology assistant professor Dr. Thomas Akre, a renowned turtle expert, who is working with the Department on this research in partnership with the Smithsonian Biology Conservation Institute.

"As soon as I heard about it, I knew I had to be a part of it," says Dragon.

Originally from rural New Jersey, he remembers moving box turtles out of the road and catching reptiles in the woods around his home as a boy.

"I was constantly aware that people were counting on us and what it would have meant if we didn't accomplish our goal. But research sometimes leads you in a direction you didn't anticipate. I learned that, even then, there is still much value in it."

—Cale Godfrey

"That's all I would do. I'd spend the summer looking for turtles and other reptiles and amphibians," he recalls.

It turned out to be vital training. Along with that hand-to-mouth existence, grad students often work long hours in the field for days on end. Morin spent the entire month of June working 12- to 15-hour days without a break. Later in the summer, Dragon expects to camp in the woods so he can be on site as the turtle eggs hatch at night or in the early morning. Morin also plans to spend much of her field time living like a gypsy in a tent somewhere on the national forest. It's just part of the life, a life that also includes animal bites, thunderstorms, mud, blood and sweat, swarms of biting insects, and the constant pressure of looming deadlines. Dragon can't count how many times he's been stung by wasps and other insects, and he developed a case of trenchfoot after spending day after day in wet boots. Despite the physical hardships, Godfrey says nothing compared to the constant mental pressure hanging over his head.

"There was a lot riding on the work we were doing and, as a student, I felt it would have been a very big deal if we messed up," he says. "I was constantly aware that people were counting on us and what it would have meant if we didn't accomplish our goal. But research sometimes leads you in a direction you didn't anticipate. I learned that, even then, there is still much value in it."

While the grueling field work and the physical hardships may actually sound appealing to some, the life of a grad student isn't all spent in the woods. The data gathered has to be entered into a computer and it has to be analyzed. After all, the underlying motive of their research is to unlock mysteries of the natural world and then present those findings to the science community and the general public. Godfrey spent a full six months plugging data into programs, determining what it all meant, and then writing it into a report. Then they face the scrutiny of their academic advisor, usually a professor who serves as both mentor and boss.

In some ways, says Morin, the hardships grad students endure as they conduct valuable research are a test to see if they have what it takes to cut it as a full-time researcher, professor, or biologist. Virginia Tech fisheries professor Dr. Brian Murphy agrees to some extent, but he says most students who apply



Jeff Dragon holds the foundation of his research, a wood turtle. He will spend the next three years studying the life and habits of these threatened species. Below, fisheries biologists Vic DiCenzo and Dan Michaelson work trap nets on Sandy River Reservoir as part of their ongoing research.

for a graduate position understand what they may be getting themselves into. Successful candidates tend to have some sort of related experience, whether volunteering at a nature center or even working as a garbage collector at a state park, anything even slightly related to the outdoors. But even with some experience, not everyone is accepted.

"It's pretty competitive. We get around 200 applications each year for a limited number of graduate positions. We accept around 20 percent, depending on the funding available," says Murphy.

Dragon and Morin agree that their job isn't all blood, sweat, and tears. Along with becoming a renowned expert in their chosen field of study, graduate students sometimes have the opportunity to participate in field work in some exotic locations. Morin spent a year in Belize working on a howler monkey sanctuary. But even if she never had that opportunity, she would gladly repeat her years as a wildlife undergraduate and graduate student.

"It's a lot of hard work and some of the work can be pretty tedious and repetitive, but the good definitely outweighs the bad," she says, even if the bad involves examining animal scat. 🐾

David Hart is a full-time freelance writer and photographer from Rice. He is a regular contributor to numerous national hunting and fishing magazines.





RAPPAHANNOCK RIVER REVIVAL

*With the
Embrey Dam gone,
migrating fish are
'spreading their fins'
so to speak.*

by Beau Beasley

“**I**t’s okay, Jeremiah—he won’t hurt you,” I reassured my son as I tried to steady my camera. Jeremiah didn’t seem convinced and eyed the fish, which had just recently been pulled from the river, with mingled curiosity and suspicion. At the ripe old age of five, my son was a typical boy, eager to see a fish up close—until one was actually up close. Now he stood on the banks of the Rappahannock River alongside Department fisheries biologist John Odenkirk, and he wasn’t so sure.

“He won’t bite you,” Odenkirk told my son as he carefully held the fish for Jeremiah to inspect. “He’s more scared of you than you are of him.” Jeremiah reached out a tentative finger and touched the fish—and confident that all was now well, my affectionate son actually kissed the fish goodbye for good measure. Odenkirk and I glanced quickly at one another and suppressed a laugh. My future angler watched as Odenkirk carefully released the fish back to his river.

Before Jeremiah’s close encounter of the piscatorial kind, he and I had observed members of Odenkirk’s team electroshocking fish: Fisheries managers use a battery to release a small electrical charge in the water that temporarily stuns the fish so that biologists may net them for examination. The fish are rendered practically motionless for a while, but this state is transitory and poses them no long-term threat. Fisheries managers often explore

the same section of river year after year, which is sometimes several hundred feet long, at specific times when conditions allow. This acts more or less like a fish census; data gathered over several seasons can give Department personnel a sense of the river’s health and the health of its fish populations.

The Rappahannock, which is Algonquian Indian for “rapidly rising water,” is a tidal river with regular ebbs and flows of several feet each day toward its drainage in the Chesapeake Bay. The tidal flows and currents are strong here, and sharp drop-offs and deep holes are commonplace. Wading anglers often find to their chagrin that rocks they walked over at low tide have disappeared altogether in a rising tide. (Ask me how I know this.) Regrettably, visitors drown in the Rapp nearly every season because recreational anglers and swimmers simply don’t appreciate the force of the river’s current. Rapp visitors should use caution when fishing, swimming, or paddling this venerable waterway.

A study in contrasts, the Rappahannock River begins in the Blue Ridge Mountains but is brackish at its mouth, which is nearly three and a half miles wide. Though most famous for its smallmouth bass and shad, the river’s best-known tributary is the Rapidan, a renowned trout fishery. The Rapp is over 180 miles long and drains as much as six percent of the Old Dominion’s land mass. It was a hub of early colonization, including the settlement named Germana by its Swiss immigrants.

Most students of Virginia history know that the Rappahannock served as a natural boundary between Union and Confederate armies during the Civil War, but many are unaware that the Rapp was already a war veteran by the time of that conflict: She saw gunship engagements during the War of 1812, when hundreds of British Marines (with the aid of small ships) captured four American privateers, the *Lynx*, *Racer*, *Dolphin*, and *Arab*. These privateers were employed more or less as free agents for what constituted the colonial



Left, fisheries biologist John Odenkirk shares a teaching moment with up-and-coming angler Jeremiah. Removal of the Embrey Dam in 2004 has changed the character of the fish community, according to DGIF surveys.



American eel

POST-EMBREY FISH SURVEY

In June 2010, three locations were surveyed to see what effect the removal of the dam might have had on local fish populations. The sites used to conduct the survey: just above Clore Brothers Outfitters in Fredericksburg, Kelly's Ford, and Ely's Ford. Results were promising and even Department staff were impressed.

According to Odenkirk, "The fish community has changed dramatically since the dam was taken down." Channel catfish, blue catfish, gizzard shad, and long-nose gar didn't even exist above the dam prior to its removal. These four fish now make the most abundant top ten species list. Rounding out the top ten are red-breasted sunfish, American eel, satfin shiner, smallmouth bass, bluegill, northern hogsucker, and common carp.

Some might wonder why hickory and American shad, river herring, and stripers were not more prevalent, since experts believed that these species might benefit the most—especially because the dam's removal would add over 100 river miles of spawning grounds. The answer lies in timing. Sampling was performed in June, when these migrating species would have long since returned to the ocean after spawning.

Survey results are good news for anglers, especially those who target smallmouth bass. As a result of the increase in prey, the smallies are growing much faster than before the removal of the dam. For example, a five-year-old smallie averaged 13.1 inches before the Embrey Dam came down; today that same fish is, on average, 16.4 inches long! Simply put, predator fish like smallies have so much more to eat now that they're growing like crazy.

Says Odenkirk, "I have to be honest and say that before the dam's removal, smallmouth fishing on this river was sort of marginal at best. The good news is that now the Rappahannock is poised to give her sister rivers—the James, Shenandoah, and New—a run for their money. The great news is that as time passes, the fishing here should only get better."



Smallmouth bass



Blue catfish



Longnose gar



Channel catfish



Northern hogsucker

Illustrations by
Duane Raver/USFWS

Navy; after capture, most were refitted for use in the British Navy or sold.

Perhaps not all Virginians are thrilled to see smallmouth bass, catfish, and suckers upstream from where Interstate 95 crosses the river in Fredericksburg—but today it was hard to tell who was happier, Jeremiah or Odenkirk.

"We've seen healthy populations of fish in this section of the river ever since the Embry Dam came down," says Odenkirk, "and even I'm surprised to see how well the fish are doing. It's really a testament to how well fish can recover if we manage them correctly." Odenkirk is studying how the Rappahannock's fish have fared since the removal of the Embrey Dam in 2004. So far he is encouraged by what he sees, though he cautions that it will be many years before the river completely recovers. "We've seen not only the smallmouth bass population increase that we had hoped for, but increases across the board for many species including stripers and shad."

Odenkirk notes that he's seen a 25 percent increase in size for smallmouth bass in the four-year-old age class. Some species like shad have even been captured 45 miles or more upstream from the Embrey Dam, which was constructed in the mid-1800s. Why is this significant? Because shad and striper migrations have been effectively stranded at the Embrey Dam, since fish ladders did not exist at that time and no one considered the fish at the time of its construction. The restoration of historic spawning grounds should mean even healthier fish populations in the future, though this is by no means certain since the migratory fish have been effectively cut off from these spawning grounds for nearly a century and a half.

The picture is not entirely rosy, however: "We see some significant water quality issues," says Odenkirk, "and low water flow is a persistent problem." The river still gets some high flow rates in the spring and winter months, but lower water levels plague the river much of the year, which could become more serious as the demands of agriculture and development continue to increase.

Even the casual observer will note ever-burgeoning, historic Fredericksburg. To its credit the city recently purchased hundreds of acres of land near the riverfront for preservation and to ensure that its citizens and tourists would have access to the river. This also effectively ended overdevelopment on the banks of the Rapp near Old Town Fredericksburg. Anglers have excellent river access at Old Mill Park and River Road.

Visitors can fish the Rappahannock nearly year round. Hickory shad, which fight like crazy



Above, Department staff prepare to electroshock fish in the upper reaches of the Rappahannock. Recreational anglers (left) benefit from knowing survey results.



©Dwight Dyke

and entertain both fly and spin anglers alike, enter the river by the tens of thousands from late March until early to mid-May every year as they migrate from the Chesapeake Bay. American shad are also present but in much smaller numbers. In fact, biologists like Odenkirk are working to bring American shad back to their historic numbers.

Behind the shad come the migrating stripers, which feast on the shad as they move upriver and which are crucial to the health of the Chesapeake Bay. Along with these saltwater fish are American eels, which, believe it or not, migrate as far upriver as the Shenandoah National Park trout streams.

By mid- to late May and through late October, the Rapp's famed smallies take center stage. It is true, however, that in the eyes of some anglers, these kings of the river are occasionally upstaged by beefy catfish and hard-fighting bluegills.

Not everyone enjoys tackling a 20-inch smallmouth with a topwater lure. Some plumb the depths of the river with rattle-traps or even worms looking for gar, while others try to land one of the behemoth carp with dough balls.

Virginia's historic Rappahannock River is poised for a comeback that will ensure that a new generation of anglers, like my son, enjoys its riches. It is easily accessible from locations throughout the state (free maps of most of the state's rivers are available from the Department) and supports a wide variety of fish.

Though they're heavily outnumbered by spin fishermen, and even by swimmers and canoe enthusiasts, fly anglers continue to flock to the Rapp in the early spring for its incomparable shad runs and in the summer for its lunker smallies.

John Odenkirk ought not to have *all* the fun: Make time in your schedule this season for a little Rappahannock River "research." Wade carefully, and always wear a flotation device if you're boating or moving near swift current. Promptly release any fish that you don't intend to keep. Kissing them is optional. ☞

Beau Beasley's newly released second book, Fly Fishing the Mid-Atlantic: A No Nonsense Guide to Top Waters, may be purchased from his website (www.beaubeasley.com) or from your local fly shop or bookstore.



Under the Arches

Research and education shine at the State Arboretum at Blandy Experimental Farm.

story and photos
by Marie Majarov

A Virginia treasure is quietly tucked into the northern corner of the Shenandoah Valley: 700 serene acres of woodlots, successional fields, pastures, ephemeral pools, wetlands, and broad Blue Ridge

mountain vistas. Here, from under the arches of the “Quarters,” a circa 1830s brick building believed to have once housed slaves, the University of Virginia (UVA) owns and operates a cutting-edge environmental science research station that includes extensive public education and Virginia’s State Arboretum.

Originally part of the Tuleyries, the antebellum summer home of the Blandy Family, the property was bequeathed to UVA in 1926 upon the death of stockbroker Graham E. Blandy. An enthusiast of the Virginia countryside, Blandy wanted to increase knowledge related to farming and encourage young men in agricultural activities. This generous gift came with the stipulation that it be named “Blandy Experimental Farm.” Today it is affectionately known as “Blandy.”

The Quarters, cited on both state and national historic registers and long the hub of activity, was enlarged in 1940 in keeping with

its original architecture and UVA style to provide needed offices, a science lab, library, kitchen, and student housing—now including women as well as men. Currently, a new ‘green’ science lab is in the planning phase.

Blandy’s mission has broadened and coalesced throughout the almost 85 years of its existence. Director & Research Associate Professor Dr. David Carr states it succinctly: “Our mission is to increase understanding of the natural world through research and education.”

UVA is proud to have other universities from both within and outside Virginia join in implementing their mission and to partner with programs such as the Virginia Native Plant Society, American Boxwood Society, Virginia Master Naturalists, and Northern Shenandoah Valley Audubon Society (NSV Audubon), as well as the Department (DGIF).



Right, the Quarters, once believed to have housed slaves, becomes a hub of activity and discussion during summer research programs.



Courtesy of UVA Blandy Experimental Farm

Graham F. Blandy bequeathed 712 acres of his summer home property to UVA in 1926.

“Environmental Research,” continues Dr. Carr, “has always been the cornerstone of Blandy’s development” and continues to shape its growth. Talented directors through the years and the research projects conducted in their tenure have all made significant contributions to the station’s character but it was the first director, in Carr’s opinion, who was the visionary most responsible for what Blandy is today.

Dr. Orland E. White

In 1927, Dr. Orland E. White (1885-1972), a gregarious geneticist, botanist, horticulturist, artist, and extraordinarily passionate teacher, was hired to establish Blandy Experimental Farm. Under the arches where slaves

once slept this “larger than life” personality enjoyed challenging students to debate emerging issues in the young science of genetics.

Dr. White’s research interest was the systematic study of trees; his goal, to determine the best species for potential commercial use. To this end he began building grand collections of native trees and plants and their exotic relatives, making careful handwritten records still cherished today. Formal accession books for the collections were started in 1938.

Families of oaks, hollies, maples, and more were planted taxonomically in beautifully laid out groupings to compare chromosomes and trace the relationships between



Courtesy of UVA Blandy Experimental Farm

Dr. Orland E. White was the charismatic, very influential first director at Blandy.



plantings. Ginkgo trees, which at that time were facing extinction, Dr. White planted in neat rows. Legend has it that he brought seeds from the UVA grounds in Charlottesville to look at the sex ratio of trees they would produce. Results were close to 50/50 male to female, but the strongest outcome was the largest ginkgo grove (325 trees) in North America that each fall produces a show of dazzling gold.

Certainly he was research driven, but clearly Dr. White's artistic eye was also at work in creating the groundwork for the 172-acre arboretum that today is home to more than 8,000 trees and woody shrubs representing over 50 plant families and 1,000 species and varieties, including azaleas, beeches, catalpas, Cedars of Lebanon, crabapples, hollies, magnolias, maples, birches, viburnum—to name only a very few!

Celebrated highlights include nearly one-third of the world's pine species, a Virginia Native Plant Trail, the Boxwood Memorial Garden, a fragrant herb garden, and of course the spectacular ginkgo grove. Wending its way around this glorious arboretum is a picturesque portion of DGIF's Birding and Wildlife Trail, which follows the Wilkins Lane Loop showcasing high diversities of birds, butterflies, dragonflies, and plant life.

In 1955 UVA honored Dr. White's 28 years of dedication by naming his creation the "Orland E. White Arboretum" and opening its beauty to the public free of charge from dawn to dusk, 365 days a year. Virginia's General Assembly designated it our official State Arboretum in 1986, making 2011 its 25th anniversary!

Research Associate Professor Dr. T'ai Roulston now serves as curator for this outdoor, living museum which is an essential tool in implementing Blandy's mission.

Research

Following Dr. White's epic work, the science of biology/genetics at UVA evolved to the molecular study of DNA, and Blandy's tapestry of habitats became the very appropriate purview of the Environmental Sciences division. The property provides almost endless possibilities for ecological investigation. Field tracts can be laid out, plowed/burnt, and followed to better understand the stages of succession. Solitary bees can be observed in cleverly designed studies; investigations of invasives are easily facilitated; and so much more.

Peak research activity comes each summer when 20–25 undergraduates, graduates, and post-doctoral fellows take up residence at the Quarters. Stimulating conversations under the old brick arches continue on new topics: plant-herbivore interactions, insect population dynamics, the effects of plant inbreeding and genetic variation, plant succession, pollination, native bee biology, and habitat fragmentation.

Partners also play an active role in ongoing research efforts. DGIF collaborates in a project to encourage meadow habitat for the Northern bobwhite, also important to numerous other species including butterflies, field mice, black rat snakes, and various sparrows. Progress for bobwhites, who need the open spaces between the clumping growths of warm-season grasses for nest building, is promising in Blandy's meadows. Although

seen fairly frequently, these quail chose not to peek their heads out for counting during the station's 2010 Audubon Christmas Bird Count!

Additionally, 500-tree test plots were planted as part of The American Chestnut Foundation's long-term breeding program and network of efforts along the East Coast to introduce blight resistance into the American Chestnut so that it can thrive in the face of the chestnut blight, *Cryphonectria parasitica*. And the NSV Audubon maintains an ongoing 110-nestbox bluebird trail staffed totally by volunteers, which provides significant data to the Cornell Lab of Ornithology, DGIF, Virginia Bluebird Society, and Smithsonian Institute.

Associate Director Dr. Kyle Haynes, whose personal specialty is forest-defoliating insects, oversees research programs. Just take a peek at the publication list on Blandy's website to see the impressive research results produced!

Outreach & Education

The ability to increase ecological awareness for citizens, policymakers, and society as a whole—a critical role of environmental science—is a skill at which Blandy shines. “Our inter-relationship of research and education makes us a unique resource for Virginia,” states director Carr. Thanks to Dr. Steve Carroll who directs public programs and Dr. Candace Lut-



Dr. Dave Carr, an expert birder, leads a winter birding walk through bobwhite habitat, a collaborative project with DGIF.



The ginkgo trees planted by Dr. White glow a dazzling gold each fall.



Blandy faculty excel in their commitment to increasing ecological awareness.

zow-Felling who directs education, there is something to learn and enjoy for everyone: young people, teachers, wildlife managers, gardeners, and citizens who want to make a difference.

A renovated apple-packing shed, now the charming Parkfield Learning Center (PLC), is crammed full with wonderful nature displays made possible through DGIF Scientific Collection/Salvage Permits that allow for some live animals (a black rat snake, for example) and various animals found dead

in the wild to be preserved for educational purposes.

Here at PLC and around the grounds, young naturalists are treated to stimulating hands-on activities that encourage them to explore and learn about the natural world during Saturday workshops, school fieldtrips, and summer day camps. Teachers as well have numerous educational opportunities, including Project Wild Workshops (a national wildlife-focused conservation program for K-12 educators sponsored through DGIF),

Project Learning Tree, Project Underground, and watershed science activities.

Blandy is also the site of the annual training for the Shenandoah Chapter of Virginia Master Naturalists. Supported by DGIF and other state organizations, master naturalists have 10 intense weeks of classroom and field training before engaging in volunteer conservation and educational activities.

Lectures/workshops for adults and families are held each season, usually in the Quarters library but also include walking programs on the grounds. Winter Birds, Big Trees, Backyard Nature, Vanishing Bees, the State of the Shenandoah River, Spring Flowering Trees, and Edible Landscaping are just some of the enticing topics.

The outreach programs as well as a Spring Garden Fair (my favorite place for perennials), a Fall Arbor Fest, visitor tours, and several display gardens around the quarters are all supported by the Foundation of the State Arboretum, a nonprofit membership organization working in coordination with UVA to help support and maintain the arboretum and its activities. Dedicated friends from this organization have provided countless hours and invaluable support to Blandy's public outreach efforts.

Walk down Dogwood Lane along the old stone wall, view the towering trees, drive the wildlife loop, see the ginkgo's fall splendor, and walk under the arches of the Quarters. Blandy is taking our state to a more environmentally aware future. It is indeed a treasure. 🌿

Marie and Milan Majarov (www.majarov.com) live in Winchester. Both are retired clinical psychologists, nature enthusiasts, and members of the Virginia Outdoor Writers Association.

For More Information:

Blandy Experimental Farm & State Arboretum: www.blandy.virginia.edu

University of Virginia, Environmental Sciences: www.evsc.virginia.edu/

Virginia Birding and Wildlife Trail, Blandy Experimental Farm and State Arboretum Loop:

www.dgif.virginia.gov/vbwt/site.asp?trail=2&loop=MFR&site=MFR06

Virginia Master Naturalists:
www.virginiamasternaturalist.org/



Program presenter Robin Contts (standing) and Tom Adkins, VMN, prepare aspiring young naturalists for finding the first signs of spring.



This budding naturalist studies shallow lake habitat at Lake Georgette, home to many painted turtles.

TRASHING Wildlife





©Bill Lea



©Gregory J. Pels

Sadly, people will toss just about anything down a riverbank for disposal, including large appliances. Cigarette butts mar the landscape and cause problems for a number of species.

by Glenda Booth

Americans represent around five percent of the world's population but generate 40 percent of the world's waste. That translates to 4.3 pounds per person per day, up from 2.7 pounds in 1960. Only about one-third of that waste is recycled or composted.

Glance down at the pavement at your next stoplight. Chances are you'll see a mat of cigarette butts. Continue driving and you'll likely pass plastic bags flapping in the trees along highways. Meanwhile, bottles bob in rivers and shorelines are scarred by Styrofoam debris.

Trash is not just an eyesore. It can be lethal to wildlife.

CIGARETTE BUTTS

Cigarette butts top the list of items found during "Clean Virginia Waterways" cleanups. They are the most common beach trash, having traveled there from streets, streams, and rivers to the ocean.

Executive Director of Clean Virginia Waterways Kathleen M. Register says that most cigarette filters are made of cellulose acetate, a plastic slow to degrade. Unfortunately, that plastic has been found in the stomachs of birds, whales, and other marine animals that mistake cigarette butts for food. Fibers are thinner than thread, packed tightly, and look like cotton. The tips and filters of cigarette butts contain multiple toxins that can leach out and become a biohazard to organisms like the water flea at concentrations of more than 0.125 butts per liter, or about one butt per two gallons of water. The water flea, found in most freshwater lakes and streams and oceans, is a planktonic animal that occupies a critical position in aquatic ecosystems, says Register.

Del. Joe Morrissey introduced a bill in the 2011 General Assembly to create a fine of \$100 per cigarette butt for littering. "It's one of many peoples' pet peeves," he asserts. "It is disgraceful that somebody has the temerity to discard a single cigarette butt or an entire ashtray of butts at an intersection just so they can keep their car clean, but at the same time completely disregards the environment." The bill failed.

PLASTICS

Plastic endures. From yogurt cups to beverage bottles, plastic is everywhere, even on the world's tallest peak: Mount Everest. Many plastic products are designed for a single use and then to be disposed of. Though most plastic bottles are recyclable, 80 percent are thrown away. Officials with the National Oceanic & Atmospheric Administration say that plastic likely makes up a sizeable portion of the marine debris that exists today.

Plastic pollution kills more than 100,000 marine creatures each year, including seabirds, mammals, and turtles, researchers for the television program, 60 Minutes, found. As plastic photodegrades, pieces become smaller and smaller and, eventually, ingestible.



Sally Mills

"Plastics can now be found almost anywhere in the world's oceans," explains Dr. Kirk J. Havens, who directs the Coastal Watersheds Program at the Virginia Institute of Marine Science (VIMS). There are only a couple of polymers that are considered fully biodegradable in the marine environment. Most are plastics like polyethylene and polypropylene which simply break down into smaller fragments. These smaller 'microplastics' can be ingested by zooplankton. Zooplankton are the base of the marine food web, and disruption of the zooplankton population can have serious implications for marine life."

Animals mistake plastic debris for food and birds may think plastic pellets are fish eggs. The ingested debris can make the animal's stomach seem full, or worse, cause death and reproductive failure.

Most of us have viewed photographs of ducks, herons, gulls, fishes, turtles, and other animals ensnared in plastic six-pack rings.

Steve Chaconas, who runs National Bass Guide Service, says, "I have rescued several ospreys that have become entangled in six-pack rings and were near starvation."

Of the 100 billion plastic bags used each year in the U.S., a mere five percent are recycled. Bags get snagged in trees, fences, and bushes and they float on water. Plastic bags take hundreds of years to degrade.

"The pollution from plastic bags in the streams and waterways is the fourth most prevalent form of pollution behind cigarettes, food wrappers, and plastic beverage bottles," Delegate Adam Ebbin said last year in introducing his bill to put a nickel tax on single-use shopping bags.

A plastic bag can suffocate or choke an animal. Turtles mistake plastic bags for jelly fish. Whales may think plastic bags are squid. A bag can block digestion and cause death. Necropsies have found plastic bag remnants in the stomachs of whales, dolphins, bottom fish, manatees, and birds.

FISHING TACKLE

Discarded or abandoned fishing line is particularly lethal to birds. Twined around birds' feet, it cuts off circulation and when snared around legs, beaks, and wings, can prevent birds from flying or eating—even standing. Fishing line has been found entangling both

young and adult osprey, and he may be present in five to ten percent of all osprey nests on the bay and its tributaries, wrote Kathy Reshetiloff in the *Bay Journal* last year.

Migratory game bird biologist Gary Constanzo, with the Department (DGIF), says he bands two to three thousand Canada geese each year and sees two or three geese with fishing line around their legs or feet. Though "the incidence is not that high," his most common sighting of birds caught in fishing line is Canada geese and mallards and occasionally gulls and seabirds.

DGIF fish biologist John Odenkirk sees piles of fishing re-spool lines left on river banks. "Some people don't care," he acknowledges.

Along some Virginia streams, "You can find a 'bird's nest' of monofilament line," says one avid fisherman, "a gob big enough to choke an elephant." And it is very slow to biodegrade.

Fishing hooks get stuck in birds' legs and feet and endanger all of us. Biologists describe "ghost fishing," which means fishing without a fisherman. If a baited hook gets caught on a bank submerged, fish get trapped trying to eat the bait and are snagged there to die.

And DGIF fish biologist Scott Smith has seen fish trapped in old gill nets. If the fish breaks free and survives, its tissue grows around the piece of net, "like barbed wire on a tree," he says. "Some fish get stuck in old nets and die."



©Lynda Richardson

A smoky shrew that crawled into this bottle left on the ground died when it could not escape. Left, dumpsites like this along waterways have become, sadly, all too familiar.



©Bill Lea

TRASH AND BEARS

Bears like plastic and rubbery things, like coolers and duct tape, says Jaime Sajecki, DGIF's black bear project leader.

They will chew on anything with foam, like coolers, hot tub covers, and lawn mower seats. "When insulation breaks down, it gives off formic acid, the same smell that ant colonies give off. Bears think they're going to get into an ant colony, which they love," she explains.

"Bears pass a lot of scat full of candy wrappers, plastic bags, and Styrofoam. It all passes through their system, but it may not harm them much," she observes. That's the good news.

A real hazard is large containers. "Anything can get stuck over bears' heads," maintains Sajecki. "They stick their heads in everything to get whatever's inside that smells good and their head can get trapped within." If not rescued, the bear can die of starvation. There have been several incidents of bears getting their heads stuck inside large plastic containers, but thankfully, none reported in Virginia to date.

METAL RINGS AND MORE

On Virginia's Smith River, Odenkirk and Smith have saved many young brown trout encircled by metal rings the size of a half-dollar. As the fish grows with the embedded ring, it can survive up to a year. The ring eventually cuts the fish or it dies from an infection if the ring is not removed. Smith speculates that the rings come from large-mouthed beverage bottles. "We've rescued a lot," he notes.

Discarded beverage containers are ubiquitous. In one 2009 cleanup, volunteers collected over 180,000 beverage containers in the Potomac River watershed. Those cans and bottles can become traps for very small animals that are attracted to food morsels inside. They get their heads caught in jars, cans, and plastic cups, especially containers that are thinner at the top and wider at the bottom. Small creatures like lizards crawl inside for warmth or protection, but cannot get out. There, they suffocate or starve.

The Styrofoam or polystyrene used for coolers, cups, trays, and carryout food "clamshells" are becoming very common in waterways, where they break up quickly into small pieces—some invisible to humans. Birds and other animals mistake the pieces for food. Ingested polystyrene, a suspected carcinogen, can cause fatal internal blockages in animals.

Who hasn't seen a helium-filled balloon escape to the skies? Balloons, pieces of balloons, and their string come down somewhere and get twined around birds' necks and beaks. In the ocean, ingested balloons mistaken for jellyfish can block digestion and cause marine animals to starve to death or be suffocated. Rehabilitators at Baltimore's National Aquarium removed three square feet of mylar balloon from a stranded whale in 1993.

IT'S PREVENTABLE

"The sad thing is all of these pollutants are totally avoidable. Whether from land or sea, trash is trash and should be disposed of properly," advises Chaconas.

Also key to eliminating trash in the environment is not producing it in the first place. Again, DGIF's Smith: "Anything discarded can be a trap or problem, and plastic is worse than other trash because it lasts a lot longer. If you go to the trouble to bring it in, go to the trouble to take it out with you and dispose of it correctly." ❧

Glenda C Booth, a freelance writer, grew up in Southwest Virginia and has lived in Northern Virginia over 30 years, where she is active in conservation efforts.



Courtesy of C. Craig Burns

Even something as innocuous as a broken teacup can be a problem for a wild animal.

RESOURCES

DGIF, Fishing Line Recycling Program
www.dgif.virginia.gov/fishing/fishing-line-recycling

Clean Virginia Waterways
www.longwood.edu/cleanva/

Virginia Institute of Marine Science
www.ccrm.vims.edu/marine_debris_removal/index.html

VIRGINIA'S Family-friendly Fisheries

*Take a look at some
creative combinations
of outdoor options
across this great state.*

by Marc N. McGlade

There is no region in the Old Dominion that doesn't sport plenty of opportunities for families to fish together. From scenic tidal rivers in the flatlander areas to highland reservoirs of the western part of the state—and in between—family-friendly fishing options abound.

Fishing and camping, or fishing and canoeing, go hand-in-hand like crabs and Old Bay. Coupling various outdoors activities together only reinforces just how lucky we are to call Virginia home. Families who canoe the Shenandoah, Potomac, New, Rappahannock, or Rapidan rivers while camping along the way know what a memorable experience this can be; add fishing to the mix, and you have the makings of a truly wonderful trip.

Many fisheries locations are conducive to families spending the day on the water or camping for a weekend. For those who own boats, there are plenty of available ramps at these locations. But not everyone has a bass boat that screams like a scalded dog. For the family without a boat, several places offer on-site boat rentals, equipment rentals, camping facilities, picnic areas, grilling opportunities, and more. Public fishing spots with fishing piers or platforms make for a great get-away. Many Department-owned lakes offer accessible



©Marc McGlade

Family-friendly Fishing Spots

- **Tidewater and Eastern Virginia** – Suffolk Lakes, Blackwater River, Nottoway River, Chickahominy River, James River, Northwest River, North Landing River, Rappahannock River, Dragon Run, Mattaponi River, Pamunkey River.
- **Northern and Central Virginia** – Lake Chesdin, Lake Brittle, Chris Greene Reservoir, Burke Lake, Occoquan Reservoir, Lake Anna, Lake Orange, Hunting Run Reservoir, Motts Run Reservoir, Lunga Reservoir, James River, Rappahannock River, Appomattox River, Occoquan River.
- **Southcentral Virginia** – Holliday Lake, Smith Mountain Lake, Lake Gaston, Lake Conner, Philpott Reservoir, Buggs Island Lake, Lake Nottoway, Briery Creek Lake, Sandy River Reservoir, James River (upper and middle).
- **Northwest Virginia** – Sherando Lakes, Lake Moomaw, Douthat Lake, Lake Frederick, Shenandoah River, James River (upper and middle).
- **Southwest Virginia** – Hungry Mother Lake, Rural Retreat Lake, Claytor Lake, Gatewood Reservoir, South Holston Reservoir, New River, Clinch River, Holston River.

Fishing & Camping Gear to Take Along

- Rods, reels, tackle box with basic essentials, lures, live bait, cooler, ice, water, sunscreen, first aid kit, bug and tick spray, tick removal tool, fish grilling basket, fillet knife, stringer, fish scaler, PFDs, canoe, kayak, john boat, anchor.
- Tent and tent liners, sleeping bags, bed rolls, blankets, lanterns and batteries, lantern fuel and mantels, food, drinks, bottled water, cooler and ice, flashlights and batteries, hatchet and hammer, medicine or vitamins, dry supply bags, dish rags and dishwashing soap, firearms and ammunition (if permitted), knives, toilet paper, spare clothes, rake, rope, waterproof matches, cast-iron frying pan, trash bags, plastic cutlery, plates, cups, paper towels, portable stove or small charcoal grill.



The author teaches son Justin the fine art of tying mantels. Kids feel more important when they are asked to lend a hand.

piers for people to spread out and enjoy a day together. Often there will be brush or other sunken structures to help attract fish to the pier. Pack a cooler with some cold drinks and eats and settle back to fish for a few hours. The logistics are easy and not much equipment is necessary.

Activities for the Entire Family

Noted as the best managed in the country, many Virginia State Parks are strategically positioned near a lake, reservoir, or river. Fresh-caught fish cooked over a campfire is a sure bet to instill the call of nature to children and a great way for adults to reconnect as well. Here, “off the beaten path” fishing spots are made accessible by well maintained trails. Biking trails are also plentiful. Trails can be challenging and are usually very scenic. Consider packing a rod, reel, and small tackle box, and hit the path! Don’t forget to bring binoculars to glass the landscape with the family. This will likely result in many questions and answers—an opportunity to share knowledge.

Imagine, if you haven’t had the chance to experience it, the feeling of paddling a scenic waterway and fishing along the way. After a few morning hours of fishing and hopefully catching something, you beach the canoe on a sandy bank (not on private property) and disembark for a shore lunch. After relaxing

for a bit, your group ventures back to the canoe and continues on, fishing and enjoying wildlife wonders along the way. After a few more hours, your location on the map tells you that you are approaching the camp site, where you set up camp and recap the day’s adventures. You might top off the evening by making a campfire and whittling a stick for making s’mores, while talking about the big one that got away. Experiences like this will stay with you forever. ✦

Marc N. McGlade relishes the opportunity to fish, camp, boat, and pretty much do anything in the outdoors with his family.

Additional Information for Family-friendly Fisheries

- Visit the Department’s website to learn more about locations in Virginia to fish, the available amenities, and fishing regulations at www.HuntFishVA.com.
- Take the family camping. To make camping reservations, call (877) 444-6777 or visit www.recreation.gov. To contact Virginia State Parks, visit www.dcr.virginia.gov/state_parks. To learn about park offerings and overnight accommodations, e-mail resvs@dc.virginia.gov or call (800) 933-PARK.

AFIELD AND AFLOAT



Outdoor Classics

by
Beth Herter

Mountain Nature: A Seasonal Natural History of the Southern Appalachians

by Jennifer Frick-Ruppert

2010 The University of North Carolina Press
Color photographs, tables, and maps
\$20 paper, \$45 hardcover
www.uncpress.unc.edu

"This book is different because it focuses on cycles of nature, particularly the seasonal cycle. I chose cycles as a conceptual theme because they provide a temporal context, a time signature against which natural events can be measured and related. Cycles are deeply engrained, perhaps fundamentally so, in the fabric of nature."

—Jennifer Frick-Ruppert

Over countless ages, mother nature's little clocks have ticked within plant and animal alike, signaling the start of a new phase. Ms. Frick-Ruppert writes: "In the southern Appalachians, the seasons constitute the most conspicuous and important natural cycle... like us, Appalachian animals and plants also sense seasonal progression and prepare for changes in form and tempo. Unlike most of us, however, they are fully engaged in each season's performance, resonating with each note, and responding as gently as plucked strings."

Seasonal cycles are inextricably woven into the fabric of our lives as human beings. We approach, and respond to, seasonal transformation scientifically and aesthetically; we respond with our hearts as well as our minds. We can study the chemical changes that cause the autumnal degradation of chlorophyll in the maple or sycamore, yet marvel at the resultant extravagant displays of fall foliage along the Blue Ridge Parkway.

Through *Mountain Nature*, a seasonal field guide that reads more like a novel, the author invites readers to explore and engage

with these cycles, and also with the vast eco-mosaic that is the southern Appalachians. The region's approximately 35 million acres stretch from north Georgia, through the Carolinas, and into Northern Virginia.

The book opens with a macro-view chapter on the general cycles of nature: biological clocks, migration and hibernation, day length, tree rings, seasonal cycles of aquatic animals, and long-term geological cycles. Subsequent chapters follow the quarterly cycles of spring, summer, fall, and winter. They delve into interesting and wide-ranging

subjects like: pollination, ephemeral wildflowers, warbler diversity, honeybee swarming, grouse threat display, fireflies, seed dispersal, Appalachian conifers, and rhododendrons in their role as evergreen thermometers.

Nature writing is at its best when the text is both scientific and lyrical, highlighting the cosmic music hidden within natural processes—think Diane Ackerman or Barbara Kingsolver. This is a volume that can be read straight through, but it is perhaps best savored section by section as each season unfolds.



Lee Walker



Lee Walker

Secretary of Natural Resources Douglas Domenech (L) and representatives of the Dept. of Defense and federal, state, and nonprofit conservation organizations who made the acquisition of the Mattaponi WMA possible, gather for its dedication. Members of the Chickahominy tribe blessed the grounds during the ceremony held on May 5th.

Update:

Since publication of the feature about yellow perch in the May 2011 issue, the 2010 Anglers of the Year list has been released.

As stated in the June 2011 issue, we now have a new yellow perch record: 3 lbs., 16.5 in.—caught by George Mullins (of Haysi) in Flannagan Reservoir, 3/8/2010.

Congratulations Mr. Mullins!

Correction:

The feature about the red knot in the April 2011 issue inaccurately stated that red knots eat lemmings. Rather, red knot reproductive rates in their Arctic breeding grounds fluctuate with the productivity of lemmings. Thus, red knot productivity may be highest during years when lemming numbers are very high. In years when lemming numbers are low, foxes and other animals that eat lemmings may prey upon red knots, their eggs, and their young.

We are pleased to share the winning essay in the VOWA 2010 Youth Writing Competition, Collegiate Undergraduate Division.

Recreation Leadership: Where Business Meets Adventure

by Mallory Taylor

My name is Mallory Taylor and I was born and raised in Newsoms, Virginia, also known as the "Home of the Jumbo Peanut." I learned early in life the importance of agriculture, hunting, and working outdoors to have a productive, sustainable lifestyle in this small southeastern town. Being raised in an 1800s farmhouse surrounded by fields, pecan trees, and long dirt roads rooted me in the simplicity of nature. I never had a childhood of technology and gadgets, but instead I grew up making mud pies and finding arrowheads in the endless fields that I called my backyard. Some people would call my childhood deprived but I enjoyed my time in nature and the solitude I found while away from the world around me. Growing up in a town where there were more hunt clubs than stoplights led me to realize how dependent my small town life was on nature. Little did I know that these childhood memories would form and guide me to my future career.

When it came time to apply for colleges, there was no second-guessing what I wanted to do for the rest of my life. I chose to attend Ferrum College where I am currently a junior

majoring in Recreation Leadership. Ferrum offered me countless opportunities to participate in outdoor activities and to study abroad. During my freshman year, I spent three weeks of my summer studying abroad in Costa Rica. I visited indigenous communities and helped to rebuild and reestablish ecotourism in Costa Rica. For my 20th birthday, I received a rafting trip on the Gauley River in West Virginia from my parents. There was no better gift for me. I was able to witness first-hand the excitement and adventure of rafting Class V rapids, while seeing how beautiful "Wet and Wild West Virginia" was. I loved the adventures that I was able to partake in and I realized that I was being drawn into the recreation and leisure field more and more each day. My love and passion for adventure, nature, excitement, solitude, action, risk, and simplicity played a major role in my decision of a career goal.

Over the past few years when I have been studying at Ferrum I have found myself more embedded in nature, and seeking to go back to my roots. The Appalachian Trail served as my "home away from home" for most of my college years. It acted as a source of solitude for me during exams, stress, and just random weekend trips. I enjoyed every minute I spent on the trail taking in nature and clearing my mind. Finding out more about myself and being able to release stress in a place that I felt so comfortable was such a blessing for me. I felt achieved and relaxed after hiking for hours in nature. I took multiple trips to MacAfee's Knob and every hike was different from the next. I invited friends to experience the thrill and solitude that I was so passionate about. In passing, I met many people from all over the world and various walks of life while I hiked and realized that we each may have had different motives but we all loved and cared for nature all the same. It was always a new adventure and I became more and more drawn into nature as the years continued to go by.

My simple childhood, love of the outdoors, and passion for nature all have one major detail in common. They each shaped my life and made me who I am today. Each nature experience I was a part of took me back to the childhood that I loved so much. It took me back to simple times where there was no "hustle and bustle", technology didn't run everyone's life, and where I felt at home again. Adventuring to new destinations and

getting involved in various outdoor activities reminded me of the passion and simple pleasures I enjoyed at a younger age. These experiences now have transferred from hobbies and fun times to a career.

Deciding to go into a career in the recreation field was not an easy choice to make. Today's society does not completely understand the concept of choosing a job that you love over a job that will result in a large paycheck. Regardless, I chose that I wanted to be happy. I know that I enjoyed my childhood and I love nature, I couldn't have asked for a better career field. I hope that making the decision to choose what I loved over money will pay off. But either way, I know that I will still be happy with working in the best office I could ever ask for, the outdoors.

IMAGE OF THE MONTH



Congratulations go to Teresa Danforth of Williamsburg for her lovely photograph of a lotus blooming at the Norfolk Botanical Garden in August of 2009. Teresa shot this image with an Olympus C700UZ digital point-and-shoot camera using ISO 100, 1/400th. f/7.0. Beautiful!

You are invited to submit one to five of your best photographs to "Image of the Month," Virginia Wildlife Magazine, P.O. Box 11104, 4010 West Broad Street, Richmond, VA 23230-1104. Send original slides, super high-quality prints, or high-res jpeg, tiff, or raw files on a disk and include a self-addressed, stamped envelope or other shipping method for return. Also, please include any pertinent information regarding how and where you captured the image and what camera and settings you used, along with your phone number. We look forward to seeing and sharing your work with our readers.

Hope Flies On

by Curtis J. Badger

Hope, the high-mileage whimbrel, is still flying the friendly skies. In *Virginia Wildlife* last August we reported that Hope had recently returned to a salt marsh in Northampton County where she had been fitted with a satellite transmitter a year earlier. During that year, Hope had flown from Virginia to nesting grounds in the Northwest Territories, from there to Hudson Bay, and then to a winter home in St. Croix in the Virgin Islands. By the time she returned to her part-time residence in Northampton she had covered more than 14,000 miles, an incredible feat for a bird that weighs a few hundred grams.

And Hope flies on. For the third year in a row she has returned to the same seaside creek on the Eastern Shore, with the solar-powered transmitter still intact. On Friday, April 8, she made landfall at a marsh called Box Tree following a 75-hour flight over the open Atlantic from St. Croix—a journey of 1,850 miles. Scientists tracking her say she has racked up more than 21,000 miles since being fitted with the transmitter on May 19, 2009.

Hope's journey has amazed even biologists who have been studying bird migration for decades. It has long been known that shorebirds such as whimbrels travel long distances when moving between winter homes in the tropics and nesting grounds in the north. But scientists had assumed that there were two separate populations of whimbrels—one on the East Coast and one on the West—and that the East Coast whimbrels moved north to the eastern part of North America to breed.

Hope shot that theory to shreds last May when she left Virginia and headed not to the north but, rather, to the northwest, to breeding grounds along the MacKenzie River near Alaska. "We knew that whimbrels flew long distances, but we had no idea they went west to the Northwest Territories," says Fletcher

Smith, a research biologist with the Center for Conservation Biology at the College of William and Mary. "No scientist would have even guessed that the East Coast harbored a percentage of the population of the western breeding whimbrels. That was a scientific breakthrough."

Scientific breakthroughs often follow in the wake of advances in technology, and such was the case with Hope. The bird was fitted with a solar-powered transmitter weighing only 9.5 grams, and it broadcast a signal to orbiting satellites on a cycle of 5 hours on, 24 hours off. The unit recharges during the off cycle. During the five hours on, if satellites are in the correct position, the signal is triangulated and the position is picked up by the receiver on the ground.

Hope's journey also demonstrates how conservation issues transcend political

boundaries. Hope's travels took her across the United States and into Canada, over the Atlantic and to the Virgin Islands. Since whimbrel surveys began on the Virginia coast in the mid-1990s, the birds have declined in population by 50 percent, says Smith. Whimbrels feed primarily on fiddler crabs, which they snatch from burrows with their down-curved beak. As the fiddlers go, so go the whimbrels. Fortunately, fiddler crab habitat is largely protected on the Virginia coast through state, federal, and private conservation ownership. Still, the whimbrel population is dropping at a rate of three percent per year, perhaps illustrating, Smith says, problems on the winter or breeding grounds.

Curtis Badger, whose most recent book is A Natural History of Quiet Waters (UVA Press), has written widely about natural history and wildlife art. He lives on Virginia's Eastern Shore.



Whimbrel, courtesy of Steve Mislowski, U.S. Fish and Wildlife Service



Photographing Birds in Flight: The Basics



Blue skies make great backgrounds, as seen in this image of a bald eagle. Staying focused on the eyes made it easier to capture a sharp image. Canon EOS 50D digital SLR camera, Canon EF 100-400mm f/4.0-5.6 L IS USM IS lens, ISO 250, 1/1000th, f/6.3.
© 2011 Lynda Richardson

Images of birds in flight can be breathtaking but those images are some of the hardest to capture. In this column, I will provide you with tips that have helped me photograph birds in action.

First, you need a long telephoto lens in the 300 to 400mm range. Team this up with a small sensor, digital SLR camera and you've got the perfect setup. The Crop Factor of a small sensor, digital SLR gives the lens a longer mm range. For example, a 300mm lens on a Canon 50D is actually a 480mm lens. Cool!

What exposure settings should you use? After deciding on ISO, first select 1/500th as the shutter speed. (1/1000th is better if you can get it!) Then, depending on the light available, see if you can use an aperture of f/8.0 or as close as possible for a good depth-of-field. (F/8.0 is the sharpest aperture on most lenses, too.) Obviously, this means shooting *manually* because you want full control over your settings. You could use Shutter Priority but just know that the camera will change the aperture setting, depending on whether the subject is against blue sky or a dark tree line.

Always use the viewfinder to focus on your subject. The LCD live view won't allow you to see if the image is properly focused. When deciding exactly where to focus, always go for the eyes or at least the head using the center-weighted focusing sensor. Your subject's head will be centered in the frame, but you can recompose during the editing process. The center sensor is the quickest focusing sensor, making it easier to get sharper images.

Make sure that your camera is set on Continuous or Continuous High Drive so you can shoot a lot of images at a time. Avoid using the BURST setting, as this can throw your focus off.

The AL SERVO AF feature will let you lock focus on your subject while pressing the shutter button half way down. Once you feel you've got the focus, push down all the way and keep the shutter firing as you pan with your subject. Shooting high JPEGs instead of RAW will also allow the camera to record images faster, though I prefer shooting RAW for best image quality.

Hand-holding your camera gives you the greatest flexibility in bird photography. And because you are already shooting at high shutter speeds, you can increase your chances for sharp focus by turning OFF Vibration Reduction/Image Stabilization, as it can slow down the auto focus. Just make sure you are holding your camera securely while properly standing for the greatest stability.

Capturing a dramatic, tack sharp image of a bird in flight will take practice and loads of patience, but when you get that fabulous shot won't it be worth it? Good Luck and Happy Shooting!

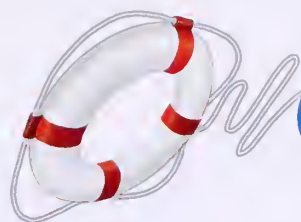
Lynda Richardson Photography Workshops

All classes held at Lewis Ginter Botanical Garden. Go to www.lewisginter.org to register and look under Adult & Family Education or call (804) 262-9887 X322 (M-F, 9 A.M.-5 P.M.).

A Composition Short Course on July 7, 9, and 12. Learn to compose a great photographic image!

An Exposure Short Course on August 4, 6, and 9. Gain a better understanding of proper exposures and the use of histograms in digital photography.

Introduction to Flash Photography on Sept 8, 10, 15, 17, and 20. Learn to use this intimidating tool!



On the Water

by Tom Guess

It's All About Choices

Everything we do involves some amount of risk, and the decisions we make help determine the associated outcomes. The same holds true for boating but with a more dynamic environment thrown in. There are two ways to approach boating safety: A person can choose to **mitigate the risks** associated with boating or they can **contribute to the risks** associated with boating. Let me share some examples:

Mitigate Risk: After a great boating season you winterize your boat by following the engine manufacturer's instructions, stow all of your survival gear in a dry protected area, and cover it up for the winter. The next season you follow the de-winterization steps, inspect all of your safety equipment, and replace anything that is damaged or expired.

Contribute to Risk: After a great boating season you park your boat out in the back yard, leave all of your safety equipment on board, leave the gas in the tank, and let the boat fill all winter with debris, rain, snow, and ice. In the spring you clean out the boat, top it off with fresh gas, and go!

Mitigate Risk: You take a boating safety course approved by the National Association of Boating Law Administrators because you believe that you are never too old to learn. You know that by taking a NASBLA-approved course, you will be complying with Virginia law and you will be over 70 percent less likely to be involved in a boating accident.

Contribute to Risk: You think taking a boating safety course is a waste of your time because you have been boating your entire life. There is no point in learning anything new.

Mitigate Risk: When you get underway, you have everyone on board your boat wear a properly fitting U.S. Coast Guard-approved life jacket. You know that many new



styles of life jackets are comfortable and lightweight. You also know that you are over four times more likely to drown without a life jacket if you accidentally find yourself in the water, even if you are a good swimmer.

Contribute to Risk: You think life jackets are too bulky, they are a hassle, and you can swim anyway... so what is the point?

Mitigate Risk: You don't drink alcoholic beverages while operating your boat because you know that it slows down your reaction time. You know that, due to dehydration and the associated stressors of operating a boat, one standard alcoholic drink can have the effect of three standard drinks consumed on land. You also know that operating under the influence of alcohol, drugs, and some prescription drugs is illegal.

Contribute to Risk: You think drinking alcoholic beverages is part of boating and

that boating without consuming them is no fun. Besides, it helps you to be a better boat operator.

Mitigate Risk: When you operate your boat at night you reduce your speed, know your area, lower the brightness on all of your electronics to a bare minimum, and have your passengers act as lookouts for you.

Contribute to Risk: When operating at night you drive too fast for the prevailing conditions, don't use lookouts, and rely solely upon your chart plotter to navigate.

Remember, boating is all about enjoyment, relaxation, and recreation, so help mitigate the associated risks and don't contribute to them! Until next time: *Be Responsible, Be Safe, and Have Fun!*

Tom Guess, U.S. Coast Guard (Ret), serves as the state boating law administrator at the DGIF.

Dining In

by Ken and Maria Perrotte

Virginia's State Saltwater Fish Two Ways

Striped bass, or “rockfish” as they’re commonly known in the saltwater environs of the mid-Atlantic, have long been savored dining staples of people living near the Chesapeake Bay. The beauty of rockfish is that the meat is so mild and versatile that it lends itself to a wide variety of recipes, from the most simple batter and fry technique to more intricate preparations. We grill, fry, and roast them whole. But two of our favorite recipes involve light sautéing and poaching in a stovetop skillet.

For these recipes, you want nice fillets, at least ½-inch to 1-inch thick. Be sure to trim away the dark red “blood line” meat that runs along the center of the fillet on the skin side. It has a taste that many find unpalatable and it certainly detracts from the ingredients in these recipes. And, of course, ensure you’ve removed all bones.



Rockfish Kenny-style

This recipe is one our 11-year-old grandson likes to cook. He calls it his “signature dish.” Maria added fresh, sweet peppers to it this year and the results were remarkably delicious.

- ½ to ¾ pound rockfish fillets
- 1 tablespoon chopped mushrooms
- 1 tablespoon chopped onion
- 1 tablespoon chopped sweet yellow pepper
- 1 tablespoon chopped sweet orange pepper
- 1 Roma tomato, peeled and seeded
- Pinch of thyme and parsley, or 1 Herbs de Provence
- ¼ teaspoon black pepper
- ½ cup dry white wine
- 1 tablespoon butter, softened

- 1 tablespoon flour
- ¼ cup cream
- 1 teaspoon lemon juice

Place mushrooms, onions, and peppers in the bottom of a pan. Top with fish, seasonings, and tomato. Add wine and poach over medium heat for 5 to 7 minutes, depending on fillet thickness, or until fillets are cooked. A sharp knife should easily and cleanly penetrate the fish. Remove fish and keep warm, keeping the wine and most of the vegetables in the pan. Mix butter and flour and whisk into pan. Stir in cream and lemon juice and bring to a soft boil. Remove from heat and pour over fish to serve.

Serves 1 or 2.

Note: If you really want to ratchet up the elegance, gilding the lily, add steamed crawfish tails, medium shrimp, or crabmeat to the sauce after removing the fish. Just be careful you don’t spice up these ingredients or they’ll conflict with the other herbs and vegetables. The mild, straightforward taste of the shrimp, crawfish, or crab is all you need.

Rockfish Riviera

- ½ to ¾ pound rockfish fillets
- 1 tablespoon butter
- ¼ teaspoon lemon pepper
- ¼ teaspoon Old Bay or crab boil seasonings
- 1 tablespoon flour
- 1 tablespoon dry white wine
- 1 teaspoon lemon juice
- Lemon wedges (optional)

Season with lemon pepper and Old Bay and lightly dust with flour. The flour should barely cover the fish, not coat it completely. Melt butter in pan over medium heat. When bubbling subsides, add fish and cook for about 3 minutes or until golden brown. Turn and cook for another minute. Add wine and lemon juice and cover. Reduce heat and cook for another several minutes, depending on fillet thickness, until done—when the meat flakes and a sharp knife easily and cleanly penetrates the fish. Serve with pan liquids drizzled over the fish. Garnish with lemon wedges if desired. Serves 1 or 2.

Sides and Wine Pairing

Both dishes do well with simple sides like steamed asparagus, fresh mixed greens, and rice. For wine, your favorite white wine is recommended. We like a crisp, well-chilled New Zealand sauvignon blanc, or a pinot grigio. A nice Virginia vidal blanc also can be a good match.

Boating Safety Courses Are Required

Personal Watercraft (PWC) "Jet Ski"

Age 50 or younger, July 1, 2011

All ages by July 1, 2012

Motorboat 10 hp or Greater

Age 20 or younger, July 1, 2011

Age 30 or younger, July 1, 2012

Age 40 or younger, July 1, 2013

Age 45 or younger, July 1, 2014

Age 50 or younger, July 1, 2015

All ages by July 1, 2016



Be Responsible Be Safe Have Fun



Looking for Something?

Did you read something in the magazine a few months back... or a few years back... that you want to locate quickly? Or perhaps you remember a particularly vivid photograph from one of our features that you'd like to revisit.

The editorial staff is pleased to announce that a searchable database of this magazine spanning the years 2005 through the present has been posted onto our website. Go to: www.dgif.virginia.gov/virginia-wildlife and click on "Contents Database" to access the file. You can search by author name, title, year, keyword, and subject matter.

While online, you will see that many of our most popular features have been posted there and may be downloaded as PDF files. And don't forget that most back issues of *Virginia Wildlife* are available at the cover price by calling the magazine office at (804) 367-0486.

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